

DYNACOMP

POKER PARTY

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INTRODUCTION

POKER PARTY is a realistic computer simulation of the game of draw poker. The game starts out with seven players, including yourself. The objective is to win the evening; i.e., take all the money at the table. This is a difficult task since most of the other (computer) participants play well.

The high level of play demonstrated by the computer opponents is not accomplished by cheating. Rather, each opponent usually bets according to the odds. However, good poker is not simply a function of remembering probabilities and betting on just that information. Bluffing is also a key element, and each of your adversaries uses the bluff to varying degrees.

HOUSE RULES

The rules governing this version of draw poker closely follow the conventions discussed in POKER (By Oswald Jacoby; Doubleday Publishing). However, some small liberties have been taken to make the game more interesting.

- Number of Players and Seating

The beginning number of players is seven. That size game is most interesting (Jacoby; page 146). The seating of the players is "Art" first, "Kathy" last. You may be seated (randomly) anywhere in between and, at times, you may replace either "Art" or "Kathy." They may have been sick that night!

- Starting Stake and Betting Limits

All players start with \$100 in chips.

The ante initially begins at \$1 and increases with each deal in which no one opens. For example, if the ante was \$1 and no one opened, it would then go to \$2. Late in the evening, the basic ante may double to liven the betting.

The ante also affects the bets. The basic bet before the draw is \$5. Variable bets are not allowed. Thus, an opening bet would cost \$5, a fold would cost \$1, a raise would cost an additional \$5. If no one had opened, the opening bet on the next deal is \$6 and the corresponding raise is also \$6.

After the draw, the basic bet is doubled since by that time there are fewer players still "in." If the bet before the draw was \$6; after the draw it becomes \$12.

The total limit to the betting is set by the maximum number of rounds of betting. Three rounds are permitted before the draw and three after.

- The House Cut

Every once in a while the house will levy a \$2 tax on every player presumably for pretzels, beer, cold cuts, and putting the house's son through college.

- Running Out of Money

When a computer player runs out of money, he/she leaves the game (and goes to the kitchen to eat). If you lose, the game ends. If a player does not have enough money to cover a bet during the play, he/she is allowed to continue so as to see the hand out. If that player loses, he/she is not liable for the IOU beyond the cash at hand.

- Openers

It takes jacks or better to open. You may "pass" betting if you have openers in an attempt to build the pot high with a later raise (called "sandbagging"). In Texas, if you declare openers without having them and get caught, you are shot. Here you will simply not be allowed the chance to cheat.

Opening also brings with it a duty. The player who opens is not permitted to fold during the betting preceding the draw. He/she must at least "see" the bets. After the draw that player may fold or bet as desired. If you try to fold under these conditions, the other betters will beat you over the head and make you bet (actually if you try to fold, the computer will simply place the bet for you).

- The Last One Left In

It sometimes happens that almost everyone has folded, leaving the last player with the pot. There are two generally accepted ways to end the round. Either the remaining player simply takes the pot without showing his/her hand, or the hand is first shown and then the money taken. The first way leaves the opportunity to cheat on openers and is frowned on. The second way is more civilized. POKER PARTY follows the latter convention, but with a twist.

If all but one have folded before the draw, the remaining player is robbed of the chance to see if drawing cards would have really improved his/her hand. Often my friend, "Old George," would end up in that position because of his ridiculously high betting (no one else would bet!). He would then continue playing by himself, discarding the cards he would normally, and drawing replacements. If the new hand was better, he would usually show it, presumably with the idea that it would prove he was not playing on a weak hand. If the new hand was actually poorer, he would simply show the old hand. He would also "bet" or "pass" based on the new hand. We let "Old George" get away with this strange behavior because it gave the rest of us clues as to how George played (how much he bluffed). Sometimes he would bluff a small pot and win on an ace-high!

POKER PARTY allows this behavior. If all but one folds before the draw, that player may draw by himself. Whether or not the old or new cards are shown depends on whether the new hand is better or not. Watch what your computer opponents do under these conditions. You may pick up some clues. Watch the girls in particular.

- Aces

Aces may be used either high or low in a straight. The cards "speak for themselves;" that is, if you have four aces to show, they will automatically beat four kings; they will be interpreted as high.

- The Bug

There are 53 cards in the deck used in POKER PARTY. One of these cards is a "joker" lacking full privileges; that is, it is a wild card to the extent that it may be used either as an ace or to fill out a straight or a flush. It cannot be used, for example, with two pair to create a full house unless one of the pair consists of aces.

- Privilege of the Opener

As mentioned earlier, the player who opens must at least "see" all the bets during the wagering before the draw. After the draw, he/she is the first to answer and may pass or bet. If he/she bets and the other players only "see" it, the betting is not necessarily ended. The opener may raise in the second round in order to keep the betting alive.

If the opener passes after the draw, the next player can pass, bet or (humorously) raise. Raising a pass is identical to betting and just offers some variety.

- Number of Cards Which Can Be Discarded

You may draw 0 to 5 cards.

- Ranking of Hands

The standard rules pertain to the ranking of hands in POKER PARTY.

1. Five of a Kind (four aces plus a joker)
2. Straight Flush
3. Full House
4. Flush
5. Straight
6. Three of a Kind
7. Two Pair
8. One Pair
9. High Card

PERMISSABLE RESPONSES

There are only a few responses required on your part, and these responses are clearly prompted by the computer.

The first input you will be asked for is your name. This input must be less than ten characters in length. As with all user responses, the input is completed with either RETURN or ENTER, depending on the computer.

In some versions of POKER PARTY, you will also be prompted for a "lucky number" to serve as a (primary or secondary) seed for the random number generator.

The single letter inputs during the betting rounds are:

F = Fold

P = Pass

B = Bet

R = Raise

If no one has opened and the player either has no opener or cares not to open, a "(P)ass" is called for. If you have jacks or better, you will be asked whether or not you wish to open. You may answer either "Y" or "N" to this question. To "see" a bet, you simply "(B)et". To raise a bet by the current standard amount, you "(R)aise". After the draw, to "stick" you simply "(B)et". To drop out you "(F)old".

There are two other inputs required of the user.

1. The number of cards to be drawn (0 to 5).
2. Which cards are to be discarded.

The second response requires some discussion. Consider for example the case in which the computer shows your hand to be:

2C 3H JC JH JK

The last card (Card 5) is a joker. You decide to keep the jacks and discard the rest (the joker is only good to fill in straights and flushes, and as an ace). When the computer asks which cards are to be discarded, answer with "1" followed by RETURN (or ENTER), then "2" followed by RETURN (or ENTER), and then finally "5" followed by RETURN (or ENTER). That is all there is to it.

PROGRAM EXECUTION SPEED

POKER PARTY is a large and very complex program. Despite this, it executes fairly rapidly on most computers. The two most time-consuming steps are associated with determining the first response after someone has opened, and evaluating the remaining hands at the final call. The computer has a great deal of work to do. It must scan each hand to determine the various formations

(usually there are several), and then pick the highest formation within that hand (so that the "cards speak for themselves"). For example, consider the following hand:

Jack (Clubs)
Queen (Clubs)
King (Clubs)
Ace (Clubs)
Joker

The joker could be used in four ways: to make a pair of aces; a straight (ten of something); a flush (another Club); or a straight flush (ten of Clubs). The straight flush is obviously the best, but the computer checks all the combinations to see which is best. For very good hands, there are usually many such combinations, and this step may take a while. Humans are still faster than computers in many ways!

PLAYING STRATEGY

Whatever your strategy, never (ever, ever, ever) draw to an inside straight! Keep in mind the following probabilities:

1. Probability of being dealt the following hands:

<u>HAND</u>	<u>PROBABILITY</u>
A pair or better	1/2
Jacks or better	1/5
Queens or better	1/6
Kings or better	1/7
Aces or better	1/9
Two pair or better	1/13
Three of a kind or better	1/35
A straight or better	1/132
A flush or better	1/270
A full house or better	1/588

2. Probability of improving the hand on a draw:

<u>KEEP</u>	<u>PROBABILITY OF IMPROVEMENT</u>
Pair	2/5
Pair + Ace	1/3
Three of a kind	2/17
Three of a kind + a Kicker	1/11
Two pair	1/11

3. Probability drawing to straights and flushes:

<u>KEEP</u>	<u>STRAIGHT</u>	<u>FLUSH</u>	<u>STRAIGHT FLUSH</u>
Open end straight	1/5	-	-
Four flush	-	2/9	-
Open end straight flush	1/2*	-	2/55
Three flush	-	1/23	-
Inside straight	1/11	-	-
Inside straight flush	-	2/9	1/46

The computer players in POKER PARTY use probabilities in play roughly equivalent to those on the above table. However, their "memories" are not perfect, and they bluff!

DYNACOMP hopes you will enjoy POKER PARTY. If you experience any difficulty or have suggestions for improvement, please feel free to contact DYNACOMP.

* For a straight or better.